

[forming a p+-type diffusion region in the well;]  
forming a p+-type drain diffusion region in the well;  
forming a p+-type source diffusion region in the well;  
forming an insulator comprises forming a layer of oxide over the well between the drain diffusion region and the source diffusion region; and  
forming a first conductive terminal comprises forming an n-type polysilicon gate electrode over the layer of oxide.

### **REMARKS**

In response to the Office Action dated 13 February 2002, the applicant respectfully requests reconsideration of the above-identified application in view of the following remarks. Claims 1-52 are pending in the application, and claims 19-26 and 47-52 have been withdrawn from consideration. Claims 1-18 and 27-46 are rejected, and claims 45 and 46 have been amended. No new matter has been added.

#### *Drawings*

The drawings were objected to under 37 CFR 1.83(a). Claims 45 and 46 have been amended as is discussed below.

#### *Rejection of Claims under §112*

Claims 45 and 46 were rejected under 35 USC § 112, first paragraph. The applicant has amended claims 45 and 46 to remove an element in each claim in response to the rejection. This is not a narrowing amendment.

#### *Rejection of Claims under §103*

Claims 1-18 and 27-46 were rejected under 35 USC § 103(a) as being unpatentable over Marr et al. (U.S. Patent No. 5,742,555, Marr) in view of Seyyedy et al. (U.S. Patent No. 5,811,869, Seyyedy). The applicant respectfully traverses.

Claim 1 recites an antifuse comprising a well of a first conductivity type in a substrate of a second conductivity type, a first conductive terminal of the second conductivity type, and an insulator between the well and the first conductive terminal.

Marr relates to a method of anti-fuse repair, and shows anti-fuses in Figures 1 and 2. However, Marr does not show an antifuse comprising a well of a first conductivity type and a first conductive terminal of a second conductivity type as recited in claim 1.

The Office Action also applied Seyyeddy which relates to a laser antifuse.

“To establish a *prima facie* case of obviousness ... there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.” MPEP 2143.

The Office Action indicated that “[i]t would have been a matter of obvious design choice to select a second conductivity type for the first conductive terminal [of Marr] since n-type and p-type conductive layers are known materials that are well suited for the intended use.” Office Action, page 3.

A recent Federal Circuit opinion, *In re Sang Su Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002), specifically requires that the suggestion or motivation to combine references “be based on objective evidence of record.” The court also stated that “[t]his factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority.” Another Federal Circuit opinion states that the suggestion or motivation to combine references must be found in the prior art. MPEP 2143 citing *In re Vaeck*, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991).

The office action did not cite prior art in the record that supports the above-stated motivation for combining Marr and Seyyeddy. The applicant respectfully submits that there is no evidence of a suggestion in the record for the combination of Marr and Seyyeddy.

“If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.” MPEP 2143.01.

Marr states in column 4, lines 22-30 that its antifuses are either n-type to n-type or p-type to p-type to avoid creating a p-n junction after rupturing the gate oxide of Marr’s antifuses. The

modification of Marr proposed in this Office Action would result in a p-n junction in Marr's antifuses in contradiction to this statement. The proposed combination of Marr and Seyyeddy would change the principle of operation of Marr, and therefore the teachings of Marr and Seyyeddy are not sufficient to render claim 1 *prima facie* obvious.

The applicant respectfully submits that a *prima facie* case of obviousness of claim 1 has **not** been established in the Office Action, and that claim 1 is in condition for allowance. Claims 2-4 are dependent on claim 1, and recite further limitations with respect to claim 1. For reasons analogous to those stated above, and the limitations in the claims, the applicant respectfully submits that a *prima facie* case of obviousness of claims 2-4 has **not** been established in the Office Action, and that claims 2-4 are in condition for allowance.

Claims 5-18 and 27-46 recite elements similar to those recited in claim 1. For reasons analogous to those stated above, and the limitations in the claims, the applicant respectfully submits that a *prima facie* case of obviousness of claims 5-18 and 27-46 has **not** been established in the Office Action, and that claims 5-18 and 27-46 are in condition for allowance.

**CONCLUSION**

The applicant respectfully submits that all of the pending claims are in condition for allowance, and such action is earnestly solicited. The Examiner is invited to telephone the below-signed attorney at 612-373-6973 to discuss any questions which may remain with respect to the present application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,


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Date 13 May 2002

By

  
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**CERTIFICATE UNDER 37 CFR 1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, Washington, D.C. 20231, on this 13 day of May, 2002.

Name

Tina Pugh

Signature

